

VARIATION IN ACONITE PREPARATIONS.

BY DR. W. H. WALLING.

I read, with much interest, the article upon Aconite, in the May number, by Dr. Coleman. This drug, in medicinal doses, acts (*a*) upon the circulation, rendering the pulse slower and softer; (*b*) upon the skin, rendering it moist; (*c*) upon the kidneys, increasing the flow of urine. This is the therapeutic effect, and is produced, in a majority of cases, by a minimum dose. My general method is to put five drops of a standard tincture of aconite into half a tumbler of water, and direct a teaspoonful of the mixture to be given every hour. The effect is through the nervous system. In addition to what Dr. Coleman stated regarding the physiological effect, I will say that this action is also through the nervous system, acting (*a*) upon the receiving centres in the brain; (*b*) upon the sensory tracts in the spinal cord; and (*c*) upon the sensory nerves of the skin, etc. Space will not allow of my enlarging upon these effects. The action produced in the cases of "Subscriber," to which Dr. Coleman refers, was due to his pushing the drug beyond the safe limits of its therapeutic effects. This was doubtless unintentional, as "Subscriber" may have been using

a poor preparation in previous cases, requiring a large dose to produce therapeutic action, and, in the cases under consideration, he may have been supplied with a strong tincture, or fluid extract, and using the same dose as before, the results were surprising, to say the least; and this leads me to say that the remarks of Dr. Coleman regarding the uncertainty of the fluid extracts in the market are strictly true.

To illustrate this, I give the analysis of six samples of fluid extracts, purchased in open market, which showed the following variations in alkaloidal strength, by assay:

				Variability in Alkaloidal Strength.
Six samples fluid ext.	cinchona.....	1.30 to 2.50		
" " " "	belladonna....	.18 to .58		
" " " "	aconite.....	.30 to .64		
" " " "	nux vomica...	1.00 to 2.60		

This shows an alarming range, and calls loudly for the *standardization of our fluid extracts* and tinctures based upon alkaloidal or other active principles, whenever possible and practicable. In the case of the tincture of aconite it is possible, but in actual practice such assay is not practicable, the physiological test, introduced by Dr. Squibb, being the one generally adopted. This is made as follows: Prepare a tincture of aconite, by exhausting ten grains of the finely powdered drug with strong alcohol, according to the U. S. P. rule for making tinctures, until a yield of 100 c. c. is obtained; 10 c. c. of this

tincture, representing 1 grain of the drug, is then diluted with water to 600 or 700 c.c., or until one fluidrachm of the mixture, placed in the anterior portion of the mouth, previously rinsed with water, and held there for one minute, produces a slight tingling sensation, lasting from one-quarter to one-half hour, in accordance with the strength of the drug. The various fluid extracts of aconite in the market, and the tinctures of aconite as found in our retail stores, will vary so widely as to render them very untrustworthy. It has been demonstrated repeatedly, that the tincture as ordinarily found will give the extreme of from 1-500 to 1-1500 by the physiological test.

No wonder that the results are sometimes surprising, when repeated ten-drop doses of the 1-1500 tr. are followed by the same repeated amounts of the 1-500 tr. Not only surprising, but sometimes disastrous, are the consequences in such cases.

A still greater range is found in the physiological test for aconitine, which has the alarming variation of from 1-40,000 to 1-300,000.

Aconitine is a very delicate alkaloid, affected easily by heat, and requiring the most careful manipulation in order to preserve its activity. I have no doubt that the dosimetric granules, so ably advocated by Dr. Coleman, are most excellent, but they are very expensive, and those claiming superiority are of foreign production. Not that this should exclude them, but when we

have a preparation of aconite of home production, of definite strength and reliability, and of slight cost, comparatively, I, for one, prefer its use.

I refer to the normal liquid, made by Parke, Davis & Co., of Detroit, Mich. This normal liquid, or assayed fluid preparation of aconite, is of such constant strength that, diluted with alcohol, according to the direction on each bottle, it forms a tincture which gives the physiological test with one to six hundred, which is the standard adopted by the pharmaceutical house mentioned.

I have long used this (aconite) and the other normal liquids, and always found them reliable and effective. I may add that the list embraces all of the important fluid extracts of the U. S. P., brought to a definite standard.

As a true American, I believe in using home products, when they are good, and would recommend to Dr. Coleman and others the use of these normal liquids as being "arms of precision" at a moderate cost.

The Doctor's article prompted these lines, and, if deemed best and desirable, I may take up, at some future time, the subject of the Galenical preparations of the U. S. P., and give the mode of preparation, strength, etc., etc., based upon a long experience, both pharmaceutically and clinically.